

Williamson (A. N.)

OBSERVATIONS ON

NASAL CATARRH

AND

CATARRHAL DEAFNESS

BY

A. N. WILLIAMSON, M.D.,

SURGEON TO THE NEW YORK THROAT AND EAR INSTITUTE; LATE CLINICAL PHYSICIAN IN
THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF NEW YORK; LATE ATTENDING
PHYSICIAN IN THE THROAT AND LUNG DEPARTMENT OF THE NORTH-
WESTERN DISPENSARY, ETC., ETC.



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CHRONIC Nasal Catarrh is usually considered an incurable disease. I propose to show, in as brief a space as possible, that it is *not*, as a rule, an incurable disease, and that the reason it has come to be so considered is due to the fact that no one has hitherto attempted to put in force an intelligent and practical mode of treatment. Having devoted many years to the especial investigation and treatment of Catarrhal diseases and impairment of hearing, I submit my views to the profession and public to be judged on their merits.

Catarrh is a term used to designate any excessive or abnormal discharge from a mucous membrane. Thus we may have *aural catarrh, gastric catarrh, vesical catarrh, uterine catarrh, &c., &c.* In consequence of the frequent and sudden changes of temperature in our climate, Nasal Catarrh is an exceedingly prevalent complaint. A *cold in the head* is an affliction very few persons escape during the winter months. If this is repeated, or not properly cured, it soon degenerates into Chronic Catarrh. A temporary assault of the disease may

be caused by local irritants, as dust, acrid vapors, and certain odors. The chief constitutional causes are Scrofula and Syphilis. Morbid growths, especially polypi, cause Catarrh more frequently than is generally recognized; since very often they are so situated in the naso-pharyngeal space as not to be easily discovered except by careful instrumental examination. Another manifestation of this disease, due to a specific cause, is known as *Hay Fever*, or *Rose Catarrh*, making its appearance only at certain seasons, and disappearing on the approach of cold weather, or the removal of the sufferer from the vicinity where the exciting cause is felt.

A mucous membrane, in a healthy condition, is constantly moist. An essential part of its healthy function consists in the exhalation of this moisture. When such a membrane becomes inflamed, as from a cold in the head, this normal secretion becomes changed in character. In the outset, the membrane becomes dry and feverish, and the natural secretion is stopped; then it becomes tumid, swollen, thick, and extremely sensitive to external impressions. Sensations of heat, fulness, and itching are experienced, with frequent sneezing. If confined to the Schneiderian membrane, the nostril is at first unusually dry, yet though dry it is difficult to breathe through it; it is stopped, not by mucus, but by the mere swelling of the membrane. The sense of smell is often perverted: and in severe cases the inflammation may extend into the frontal sinuses, causing headache and oppression; into the Eustachian tube, causing deafness, or into the lachrymal canal, closing the lachrymal ducts, and causing the tears to flow over the cheeks.

After the stage of heat and dryness, the membrane begins to secrete a thin, serous, acrid fluid, which frets and irritates the nose and lip as it flows over them. This thin fluid soon becomes thicker and less irritating; more viscid, opaque, and yellow; the swelling diminishes, and the symptoms of the

acute stage begin to vanish. The general symptoms may vary, from a mere consciousness of disturbance to a condition of marked pain, fever, loss of appetite, headache, sleeplessness, mental and physical debility, &c. Sometimes the inflammation, instead of extending towards the eye or ear, travels downward, causing sore throat, and perhaps bronchitis. These are the principal symptoms of a severe cold in the head, or acute *coryza*. The usual duration of the attack is from three to seven days. At the end of this time, all symptoms should pass away, leaving no ill effects. But in many cases, from a debilitated condition of the system perhaps, or from an access of fresh colds through neglect and carelessness, this does not occur; the secondary symptoms remain, and the disease gradually degenerates into a *chronic catarrh*. Impairment of hearing may sometimes date from the first attack, but more frequently comes on months and sometimes years after the access of the catarrhal disease.

As a rule, when the disease becomes chronic, all the symptoms of the cold in the head vanish except the discharge. That, on the contrary, becomes tenacious, often yellow or greenish, and frequently acquires an intensely disagreeable, salty taste, accompanied by an offensive odor. If ulceration takes place the discharge will often be streaked with blood. This stage of the disease is known as *ozæna*. Crusts or scabs often form, and become moulded to the form of the cavity, but are finally forced out through the nostrils, or drawn down into the throat. Small cheese-like concretions are often discharged, apparently hawked up from the throat. Very often, the greater part of the discharge drops down from the head into the throat, compelling the person to be constantly hawking and spitting, and rendering him unfit for society. In the night it is very troublesome, the air-passages becoming clogged up, and oftentimes large quantities of the discharge swallowed, to the great injury of the stomach.

In syphilitic, and sometimes in scrofulous ozæna, the bones become diseased, resulting in permanent deformity. The mucous membrane in these cases is pale, flabby, and very little sensitive to touch. The obstruction in the nostril is only when they are plugged with mucus. But there is another form of the disease in which quite a different state of things exists. Instead of being pale and flabby, the membrane will be found to be of a deep red color, sensitive to touch, puffed up, and, in old cases, quite hard from induration. The slightest irritation will cause a swelling of the membrane, sometimes one nostril and sometimes the other being almost impervious to the passage of air. The discharge is not yellow, nor large in quantity, but whitish in color, stringy, and tenacious, giving most trouble in the *throat*. Damp weather usually aggravates the symptoms. Examine the pharynx at any time, and it will be found coated with this discharge, which is a source of annoyance, not so much from the quantity of it, as the difficulty with which it is removed. As might be expected, *pharyngitis* is an accompaniment of nearly all cases of Chronic Catarrh. Of *laryngitis*, it is, beyond question, the most frequent cause. The discharges, acrid, irritating, and filthy as they are, constantly trickling down into the throat, not only induce disease of the parts, but effectually neutralize any attempts to cure, so long as the Catarrh exists. Persistent hoarseness is one of the earliest symptoms of laryngeal affection, and sometimes *aphonia*, or loss of voice, results.

When the tendency of the inflammation is downward, it may be expected to extend beyond the larynx to the bronchial tubes, causing *bronchitis*, and thence to the *lungs*. The influence of Catarrh in predisposing to consumption is undoubtedly considerable, especially where there is the least hereditary taint. Professor Loomis, in his recent work on the Heart and Lungs, writes as follows: "Clinical experience estab-

lishes the fact that a *large proportion* of cases of fibrous and catarrhal phthisis began with *naso-pharyngeal catarrh*, which gradually extended to the larger bronchial tubes, then to the smaller, and finally developed *pneumonia*, which led to consumption." All authorities admit, that although Catarrh itself is not a dangerous disease, it lays the foundation for the gravest disorders.

A great deal of injury is done to the system by swallowing this catarrhal discharge. This occurs not only at night, but at the table or in society, the sufferer desiring to make himself as little obnoxious to others as possible. When this has taken place the patient awakes with a bad taste in his mouth, loss of appetite, and not unfrequently nausea and vomiting. If there is food in the stomach, it becomes coated with the foul secretion, which prevents it from being properly acted upon by the gastric juice, whence arises almost constant indigestion. This, of course, helps to debilitate the system, and render it more liable to the assaults of disease. Catarrh of the stomach and bowels is also likely to be induced by contact of this irritating matter with the mucous membrane.

Among the serious ill effects which may follow catarrhal affections of the nasal passages, *impairment of hearing* is, perhaps, the most frequent. Deafness caused by other than naso-pharyngeal trouble is the *exception*. Professor Chisholm, of Baltimore, an aurist of the first rank, says: "Chronic pharyngeal and nasal troubles are the starting-point for most affections of the ear, which makes *throat deafness* a common form of defective hearing."

The *external* passage to the ear, passing from the side of the face to the drum membrane, is lined with skin. There is seldom any trouble here, the lining being well calculated to resist the encroachments of disease. The *internal* passage, extending from the throat to the drum membrane, is called the Eustachian tube. This is lined with mucous membrane,

directly continuous with that of the nose and throat. It is over an inch in length, and of very narrow calibre. Whenever, therefore, there is any disease in the post-nasal cavity, this continuation of the lining membrane very rarely escapes injury. The least congestion of the mucous membrane narrows the Eustachian opening, and interferes with the free passage of air to the inner ear. Indistinct vibrations are therefore transmitted to the fibres of the auditory nerve in the tympanic cavity. This gives rise, at first, to a feeling of fulness, and a constant sound in the ears like that heard on placing a large shell against the ear. This sound will vary according to the character and gravity of the obstruction, sometimes resembling the buzz of a saw or of insects, sometimes the ringing of bells, and not unfrequently all combined. Temporary obstruction may result from a drop of liquid, or a particle of mucus in the tubes, and sometimes, on blowing the nose violently, this will be dislodged, when, the air rushing in with a loud noise, all fulness and hardness of hearing will vanish.

In the ulcerative form of Catarrh, the ulceration is liable to extend through the tube to the tympanic cavity; and the matter, collecting there, may finally burst through the drum and discharge externally. In the other form, characterized by congestion and swelling of the membrane, this condition, at first involving the orifice only, may gradually extend through the entire length of the canal. The probabilities of effecting a cure in either form will be considered when we come to speak of the treatment of Catarrh.

There exists, in many persons, an unusually sensitive condition of the mucous membranes. It is in such cases that the *lachrymal duct* is liable to become affected, causing watering of the eyes, and an increase in the pain so frequently complained of in that region.

The sense of smell is usually blunted in Chronic Catarrh;

sometimes entirely destroyed. To the perfection of this sense, a free passage of air and a healthy condition of the mucous membrane are necessary. The taste is also more or less affected, as this sense requires the co-operation of the sense of smell, in order to render it perfect. I have observed that this loss of smell is more frequent in those cases in which there is little or no discharge, *dry catarrh*, as it is popularly called, than in the ulcerative form. The sensitive-ness of the nerve filament is blunted by the congestion and thickening of the mucous membrane. This obstruction, also, frequently gives a "nasal twang" to the voice.

In speaking of the treatment of Nasal Catarrh, and the little success that has hitherto attended it, it is proper to state that it has been due almost entirely to the location of the disease, and the lack of any adequate means of reaching, for any effective purpose, the post-nasal cavity. This cavity is large, complicated by many sinuosities, interrupted by many bony and membranous projections, and, therefore, not readily accessible.

The mucous discharge, whatever its nature, lodges in this cavity, and is not easily removed. Now, it will be readily seen that medicinal applications will be *utterly useless*, if the surface they are intended to reach is coated with a thick, tenacious discharge. A *thorough cleansing*, then, of the entire nasal cavity is the first step to be accomplished. *How is this to be done?* The instrument in common use throughout the country, introduced mainly by quacks, is the *douche*. This consists simply of a small vessel of water placed in an elevated position, to which a flexible rubber tube is attached. The free end being in the nostril, a current of water flows around the base of the septum and out of the other nostril. This arrangement is almost entirely valueless. It does not cleanse the post-nasal cavity, but only the nostrils, that are seldom affected by the disease. The *naso-pharyngeal cavity* is the seat of the disease, and it is to *this spot* our efforts

must be directed if a cure is to be effected. Moreover, it is well to understand the danger incurred in using the *douche*, inasmuch as it frequently happens that some of the water, in its course backwards, may enter and run along the Eustachian tubes to the inner ear, thus risking inflammation, and entire destruction of the hearing apparatus.

That which it is requisite to do, is to cleanse the *post-nasal cavity thoroughly*, and to do it from *within outwards*. The instrument I use, operated by the hand, throws a constant stream with great rapidity and force. A long, hard rubber tube, properly curved, is attached to it, which, passing in through the mouth, enters the opening behind the soft palate with perfect ease, causing no pain or annoyance whatever. Then, operating the instrument, the water flows *forward* in a powerful stream out of both nostrils, sweeping every thing before it, and cleansing the entire passage, both *anterior and posterior*, thoroughly. A gallon of water can be passed through in two minutes, and the *relief is immediate*. I often use two or three gallons of alkaline water at one sitting; less being insufficient to dislodge all scabs, concretions, and tenacious mucus, collected in different parts of the cavity. When this cleansing has been thoroughly done, then, and *then only*, can medicinal applications be made with a certainty of benefit.

So, likewise, in making applications to the throat: it should first be cleansed of all mucus coating the surface. For this mucus will frequently exclude absolutely the contact of the medicinal application with the affected part. It is frequently desirable to make applications to all parts of the throat. This should not be attempted by *gargling*, as in this way little more than the anterior surface of the soft palate and uvula is reached. By means of a camel's-hair brush or soft sponge, attached to a long handle, all the parts can be readily reached. Medicated fluids may be used with excellent effect by means of the *atomizer*, the fine spray from which penetrates readily in every direction.

As regards the *remedies* suitable to restore the diseased membrane to a healthy state, they are numerous, and vary according to the conditions of the case. The greatest care and skill is necessary on the part of the physician to determine the proper application for a given case, and the proper strength of that application. As regards the sensitiveness of the parts, rarely are two cases found alike. In one, very strong solutions can be borne; another can barely tolerate the mildest. The character of the discharge varies with the condition of the membrane, and a knowledge of this is quite as important as a personal examination in aiding to form a correct diagnosis.

In the ulcerative cases, with pale, flabby membrane and yellow discharge, *alteratives* are necessary in the outset, of which nitrate of silver and bichloride of mercury are the best. In the over-sensitive cases, with red, swollen membrane, *sedative* solutions, composed of morphia, opium, or prussic acid, exercise a very beneficial effect. To the class of *astringents*, which are always called for at some stage of the treatment, belong alum, sulphate of zinc, sulphate of copper, tannin, &c. In *dry catarrh*, and where there is a loss of smelling power, stimulating lotions are found useful, as Eau de Cologne and water. In regard to the bad odor attending *ozæna*, it is *never noticed* after once the use of my instrument has begun, since it keeps the parts perfectly clean, and therefore *there is nothing to give rise to any offensive smell*.

It should be borne in mind that faithful and close application is necessary, in order to bring about *permanent* good results. The parts should be cleansed, and applications made *daily*; in fact, it is much better that it should be done *twice a day*; and I direct all my patients throughout the country to whom I send instruments, and who treat themselves under my instructions, to cleanse the parts and make the applications on rising in the morning and retiring at night. So satisfac-

tory are the results that I am proud to say I have never had a letter of complaint since I first introduced this treatment to the public notice. Most persons suffering from Catarrh have tried dozens of different remedies, all of which have proved failures, and they very naturally have arrived at the conclusion that it is an incurable disease. The question that remains for them to consider is this: *Have they had proper treatment? Have they been treated by men of standing in the profession, who have made the disease the subject of special study and investigation?* If not, then they have no reason whatever to despair of being able to obtain a *complete and permanent* cure.

The *cause* of Catarrhal Deafness has been explained in the preceding pages. In regard to the treatment, the first thing to be said is: *cure the catarrh*. For, unless this is done, all attempts to treat the impairment of hearing successfully will most certainly fail. The cure of the catarrh alone often proves of great benefit, without any special treatment of the hearing apparatus. This occurs when the orifice alone of the Eustachian tube is involved. But usually, the congestion and thickening have extended along the canal to the inner ear. We must then, while restoring the naso-pharyngeal space to a healthy condition, resort to artificial means to render the canal permeable and restore the equilibrium. Dilatation of the Eustachian tube is effected by forcing air into the tympanic cavity. The simplest way, called the method of Valsalva, consists in a *forcible expiration*, the nose and mouth being tightly closed, so that the air is compelled to enter the ear passages. This often gives rise to unpleasant symptoms of congestion about the head, therefore the Politzer air-bag is commonly used to effect the same purpose.

In addition to these methods, the Eustachian catheter is used in many instances — some aurists, indeed, use it in nearly all cases. This is introduced through the nose, and the point so manipulated as to enter the orifice of the Eusta-

chian tube. Thus the air-blast may be concentrated with greater force upon the obstructing surface. In my opinion, however, the catheter is used too frequently by aurists. The pain and the annoyance of the operation are considerable, and the irritation caused by the point of the instrument at the Eustachian orifice often renders the result of the operation decidedly injurious. If it is desirable to introduce medicated fluids to the cavity of the tympanum, the catheter is seldom required. If the head be placed in a recumbent posture, so as to make the upper part of the throat the most dependent part of the passage, any fluid poured through the nostrils will lodge in the upper portion of the throat. Tilt the head slightly to one side, and the fluid contained in the throat will submerge the Eustachian orifice. Then, inflating by the Valsalva method, the current of air acts directly upon the surface of the liquid, until, being finally forced into the drum cavity, it pushes before it the layer of medicated fluid resting upon the orifice of the tube. By this simple process the lining membrane of the tube and drum cavity can be brought under the direct influence of remedial agents.

In medicating this cavity, it must be remembered that the mucous membrane here is of very delicate structure, and that drops that are introduced remain for a long time without diluting; contrary to what takes place in the case of mucous membranes lining other cavities, where the contact of any foreign substance instantly causes an abundant secretion. The medicated fluid should always be warm, and made about one-fourth the strength of ordinary drops. In case of *sulphate of zinc*, for instance, one-half grain to one ounce of warm water would form a solution of suitable strength. It should always be explained to patients that the introduction of the fluid will probably have the effect to diminish the hearing power temporarily. It will be from twenty-four to forty-eight hours before all unusual sensations pass away and

the relief becomes perceptible. In many instances where patients are annoyed by a continual ringing and buzzing in the ears, due often to inspissated mucus clogging the drum cavity, a warm injection of soda or ammonia will give immediate relief.

In cases of ulceration, with perforation of the drum and discharge from the external ear, the results of treatment are often more satisfactory than in those cases where the trouble is due to congestion and thickening. For in the latter case, the joints among the ossicles of the ear may become stiffened, the little bones may become ankylosed to the opposing surfaces, or a depression of the drum-head may result in its adherence to the opposing walls of the cavity of the labyrinth. Whereas, when the ulcerated surfaces are healed, although perforation still remains, there will often be sufficient vibration transmitted to the nerve terminations to allow of almost or quite perfect hearing.

While only a moderate proportion of cases of deafness can be cured, nearly or quite all can be benefited; and it is most certainly the fault of the sufferer if *in any case* the impairment of hearing is allowed to *increase*.

It is necessary to warn patients to be careful how they meddle with the external ear. Many have the idea that the first and about the only thing to do is to *syringe* the ear with warm water. Except there is some accumulation, as impacted wax, to be removed, this *always* does harm. The natural secretion of wax is washed away, and the ear is left bare and exposed to irritation, unless, as is frequently the case, some kind of oil is applied, which in all probability permanently injures the drum membrane. The ear is a delicate organ and should never be handled except by those who have made its diseases a special study, and who at the very least will do no harm if they can be of no benefit.

